Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Numbering Resource Optimization	)	CC Docket No. 99-200
	)	
Petition for Declaratory Ruling and For Expedited Action on the July 15, 1997 Order of the Pennsylvania Public Utility Commission Regarding Area Codes 412, 610, 215, and 717	)	CC Docket No. 96-98

MOTION TO ACCEPT APPENDIX TO COMMENTS

Qwest Corporation ("Qwest"), pursuant to Section 1.41[1] of the rules of the Federal Communications Commission ("Commission"), hereby files this Motion to Accept Appendix to Comments. The Appendix (A) is attached to this Motion. In support of its Motion, Qwest states the following:

1. On February 14, 2001, after 7:00 p.m. (ET), Qwest electronically filed its Comments in response to the Second Further Notice of Proposed Rulemaking ("Second Further Notice") in the above-captioned proceeding. Attached to this Motion is a copy of the associated receipt that was printed off from the Commission's Electronic Comment Filing System at the conclusion of the filing process.

2. During the filing of the Comments, Qwest experienced technical difficulties in uploading Appendix A, which was an attachment to its Comments. Qwest tried a variety of methods to incorporate Appendix A into its to-be-uploaded filing, including scanning the documents and integrating them into the same PDF file as the Comments. All of these efforts

[1] 47 C.F.R. § 1.41.

were unsuccessful. (In the past, Qwest has successfully electronically filed documents of a similar nature (that included attachments) via ECFS.)

3. In filing Appendix A today in hard copy, as is required by paragraph 192 of the Second Further Notice, Qwest is submitting an original and four copies to the Office of the Secretary. Qwest is also serving a hard copy of Appendix A on all of the FCC recipients that received a courtesy hard copy (along with International Transcription Services) of Qwest's electronically filed Comments (for the convenience of these recipients, Qwest is also providing them with a second hard copy of the Comments today).

4. Qwest is also filing today, under separate cover, copies of two confidential Workpapers that are included in Appendix A, along with a request to withhold these documents from public inspection. Qwest requests that this Motion also apply to the non-redacted Workpapers being filed today under separate cover. The redacted versions of these Workpapers are included with Appendix A as attached to this Motion.

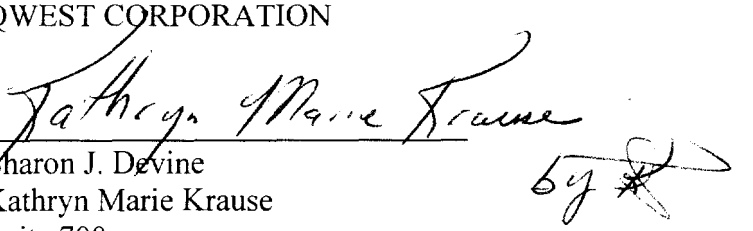
5. Qwest regrets any inconvenience this situation may have caused the Commission and the staff that previously received a courtesy copy of its Comments.

WHEREFORE, Qwest requests that the FCC grant its Motion, accept the attached Appendix A (including the confidential Workpapers) and associate it with the Comments that

were electronically filed on February 14, 2001 so that a complete version of Qwest's Comments become part of the record for this proceeding.

Respectfully submitted,

QWEST CORPORATION

By: 

Sharon J. Devine
Kathryn Marie Krause
Suite 700
1020 19th Street, N.W.
Washington, DC 20036
(303) 672-2859

February 16, 2001

Federal Communications Commission

The FCC Acknowledges Receipt of Comments From ...

Qwest Corporation

...and Thank You for Your Comments

Your Confirmation Number is: 200121473676[illegible]

Date Received: Feb 14 2001

Docket: 99-200

Number of Files Transmitted: 1

File Name	File Type	File Size (bytes)
COMMENT	Adobe Acrobat PDF	111629

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updated 07/07/00

APPENDIX A

WORKPAPER 1

Workpaper 1

Total Costs - Number Pooling

TOTAL COST ANALYSIS

	Source	Total Cost	Type 1 & 2	Type 3
Network Costs	Workpaper 2	$195,173,709	$179,199,506	$15,974,203
OSS Costs	Workpaper 3	$66,875,055	$66,875,055	###
Service Delivery Costs	Workpaper 4	$13,912,970	$13,912,970	$0
Savings From Number Pooling				
Cost of Money Costs		TBD	TBD	TBD
Total:		$275,961,733	$259,987,531	$15,974,203
% of Deployment Costs			94%	6%

DETAILED TYPE 1 & 2 COSTS FOR RECOVERY

		2000	2001	2002	2003	2004	2005	2006	TOTAL
CAPITAL									
	Network Costs	$7,080,816	$29,352,332	$42,728,824	$19,635,610	$2,772,538	$1,940,300	$2,008,195	$105,518,615
	OSS Costs	$7,374,816	$26,172,742	$7,291,000	$0	$0	$0	$0	$40,838,558
	Service Delivery Costs	$0	$106,000	$20,000	$4,000	$2,000	$0	$0	$132,000
	Total Capital	$14,455,632	$55,631,074	$50,039,824	$19,639,610	$2,774,538	$1,940,300	$2,008,195	$146,489,173
EXPENSE									
	Network Costs	$4,322,917	$16,097,523	$16,898,124	$9,749,595	$8,898,115	$8,817,144	$8,897,472	$73,680,891
	OSS Costs	$548,804	$8,233,017	$4,164,155	$3,108,005	$3,231,705	$3,348,305	$3,402,505	$26,036,496
	Service Delivery Costs	$363,859	$3,142,379	$3,750,221	$1,641,227	$1,667,685	$1,602,681	$1,612,918	$13,780,970
	Total Expense	$5,235,580	$27,472,919	$24,812,500	$14,498,827	$13,797,505	$13,768,130	$13,912,895	$113,498,358
TOTAL DIRECT COSTS:		$19,691,212	$83,103,993	$74,852,324	$34,138,437	$16,572,043	$15,708,430	$15,921,090	$259,987,531
COST OF MONEY IMPACT		TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
TOTAL TYPE 1 & 2 COSTS FOR RECOVERY		$19,691,212	$83,103,993	$74,852,324	$34,138,437	$16,572,043	$15,708,430	$15,921,090	$259,987,531

TBD - To be determined

WORKPAPER 2

REDACTED -- FOR PUBLIC INSPECTION

Type 2 Network Recoverable Costs

Switching SSP including all End Office and Tandem switching sites

ref #	Account	2000	2001	2002	2003	2004	2005	2006	TOTAL
1AESS									
Total	1AESS								
4ESS									
Total	4ESS								
5ESS									
1	2681								
2	2681								
3	2212								
64	2212								
Total	5ESS								
DMS100									
9	2681								
10	2681								
11	2681								
12	2681								
13	2212								
65	2212								
Total	DMS100								
DMS10									
14	2212								
52	2212								
15	2681								
16	2212								
63	2212								
66	2212								
Total	DMS10								

Type 2 Network Recoverable Costs

Switching SSP including all End Office and Tandem switching sites

ref #	Account	2000	2001	2002	2003	2004	2005	2006	TOTAL
AXE10									
17	2212								
18	2212								
62	2212								
19	2681								
20	2681								
21	2212								
61	2212								
67	2212								
Total AXE10									
Miscellaneous Switching all switch types									
53	2212								
54	2232								
59	2212								
68	6212								
69	2212								
70	2232								
71	2212								
74	2212								
Total Misc Switch									
Total Switching									$100,131,835

Type 2 Network Recoverable Costs

ref #	Account	2000	2001	2002	2003	2004	2005	2006	TOTAL
Links STP to SCP									
22	2232								
23	6232								
24	6728								
Total Links									
SCP									
25	2212								
26	2681								
27	6212								
48	2212								
49	2681								
50	2681								
51	2681								
60	6212								
Total SCP									$4,106,980

Type 2 Network Costs attributable to NRO Numbering Administration

ref #	Account	2000	2001	2002	2003	2004	2005	2006	TOTAL
Miscellaneous Incremental Overhead Costs									
28	6535	$485,831	$507,000	$278,523	-	-	-	-	$1,271,354
29a	6535	$43,998	$191,400	$197,960	$197,960	$197,960	$197,960	$197,960	$1,225,196
30	6534	$52,081	$911,000	$1,081,993	$1,081,993	$1,081,993	$1,081,993	$1,081,993	$6,373,046
31	6534	$6,000	-	-	-	-	-	-	$6,000
32	6534	-	-	-	-	-	-	-	-
33	6534	$988,476	$4,403,000	$1,028,312	$733,746	$176,739	-	-	$7,330,273
34a	6534	$83,997	$864,500	$919,268	$919,268	$784,294	$784,294	$784,294	$5,139,915
35	6534	$604,550	-	-	-	-	-	-	$604,550
36	6534	$254,170	$1,827,000	$2,908,402	$2,908,402	$2,769,134	$2,769,134	$2,769,134	$16,205,374
37	6728	-	$11,000	-	-	-	-	-	$11,000
38	2123	-	-	-	-	-	-	-	-
39	2122	$75,000	-	-	-	-	-	-	$75,000
40	6124	$74,250	$342,500	$7,750	-	-	-	-	$424,500
41	2124	$114,800	$1,118,000	-	-	-	-	-	$1,232,800
42	6535	$225,000	$225,000	$100,000	-	-	-	-	$550,000
43	6535	$200,000	$200,000	-	-	-	-	-	$400,000
44	6534	$106,236	$3,293,316	$7,224,048	$106,236	-	-	-	$10,729,836
45	6534	$345,000	$345,000	$172,500	-	-	-	-	$862,500
46	6122	-	$560,707	$1,192,536	$2,015,158	$2,159,008	$2,254,777	2,335,105	$10,517,291
47	6535	$700,000	$700,000	-	-	-	-	-	$1,400,000
55	6534	-	$83,000	$85,702	$85,702	$85,702	$85,702	$85,702	$511,511
56	6534	-	$67,000	$69,634	$69,634	$69,634	$69,634	$69,634	$415,170
72	6122	-	-	-	-	-	-	-	-
73	6534	-	-	-	-	-	-	-	-
75	6534	-	$807,000	$835,607	$835,607	$835,607	$835,607	$835,607	$4,985,035
Total Headcount		$4,359,389	$16,456,423	$16,102,234	$8,953,705	$8,160,071	$8,079,101	$8,159,428	$70,270,351
Sub Totals									
	Type 2	$11,278,405	$44,690,755	$58,831,058	$28,589,315	$10,932,609	$10,019,401	$10,167,624	$174,509,167

Type 2 Network Costs attributable to NRO Numbering Administration

ref #	Account	2000	2001	2002	2003	2004	2005	2006	TOTAL
Miscellaneous Incremental Overhead Costs									
29b	6535	$89,330	$388,600	$401,918	$401,918	$401,918	$401,918	$401,918	$2,487,519
34b	6534	$35,999	$370,500	$393,972	$393,972	$336,126	$336,126	$336,126	$2,202,821
Total Headcount		$125,328	$759,100	$795,890	$795,890	$738,044	$738,044	$738,044	$4,690,340

Type 3 Network Costs attributable to Number Pooling (non-recoverable)

ref #	Account	2000	2001	2002	2003	2004	2005	2006	TOTAL
1AESS									
Total	1AESS								
4ESS									
Total	4ESS								
5ESS									
Total	5ESS								
DMS100									
4	2212								
5	2212								
6	2212								
57	2212								
7	2212								
8	2212								
58	2212								
Total	DMS100								
DMS10									
Total	DMS10								
AXE10									
Total	AXE10								
Sub Totals									
	Type 3								$15,974,203
									$195,173,709

01-24-01

Number Pooling, Costs Descriptions for Projected Costs to be Incurred by Network (Operations and Technologies) (O&T)

General

Costs defined below contain estimated costs for 2000 through 2005 for the deployment of Number Pooling. Based on the timing, only a very small portion of costs have actually been incurred, as of this writing. Further since the FCC has left open to extreme uncertainty both the implementation schedules and the scope of implementation, costs and timing are based on projections concerning what the States may do with the waiver process.

Through the LNP BFR process Qwest has plans to equip 100% of its network to LNP by the end of 2000. Qwest expects to be required to implement Number Pooling through the Trial Waiver process in a number of locations, many outside of the LNP defined MSAs, before the National Implementation of Number Pooling.

Specifically addressed are the cost requirements generated by the FCC to create a pool of numbers at the rate center level and the requirement observed to date in the various State filings for Number Pooling Trial Waivers in Qwest's 14 State territory to implement number Pooling at the entire NPA level, not just the FCC's LNP implementation defined MSAs.

There is no determinable impact to the sale of queries with number pooling implementation. This negligible impact is true for both the direct queries and the default queries. No attempt is made to differentiate the cost of number pooling implementation between query and non-query related costs.

Type 1 costs are shared industry costs and consist of the NPAC and Number Pooling administrator.

Type 2 costs are those that are deemed to be recoverable costs from one or more regulatory body. These costs are solely attributable to only the implementation of number pooling.

Type 3 costs are shared or common costs that cannot be attributed solely to number pooling. These costs are generally not recoverable under known recovery rules, but may have recovery based on the cost of money if work was advanced to support number pooling.

Work Paper 2a Cost Definitions

Ref **Descriptive Title** **Type Designation**

Description and Use with Number Pooling

The reference number corresponds to the data entries for the network portion of cost analysis for cost recovery. The descriptions provided below are more comprehensive than the information provided on that analysis work sheet.

FCC Docket 95-116; DA 98-2534 Paragraph 50 part (g) including part (h) and part (i)

All switches listed are equipped with LNP, are SSPs and perform End Office or End Office and Local Tandem or End Office and Access Tandem functions. Because of this variation in usage no attempt is made to segregate the SSPs between End Office application and Tandem application. Number Pooling is only applicable in the End Office function.

1AESS family of switches and associated remote switches (information only)

This switch is an analog type electronic switch. This information is included for reference only. The 1AESS switches are expected to be removed from the Qwest network by mid 2001. The 1AESS switch is not compatible with a number pooling environment. If Qwest must build numbers into a 1AESS switch an NXX must be assigned to it. As of the time of this writing it is not anticipated that there will be a conflict in number pooling implementation schedule requirements, in either a trial format or at a National implementation level, and the need for new numbers to be assigned to the 1AESS switch. Should such a conflict arise between number pooling and numbering requirements either held orders will be created or a waiver must be approved by the appropriate commission excluding the specific switch from number pooling and allowing it to receive an entire NXX.

4ESS (information only)

Qwest owns a single 4ESS switch that serves as an Access Tandem in Seattle, WA. This is a tandem only switch and is not included in number pooling.

5ESS Family of switches and associated remote switches

This switch is a digital type electronic switch. The generic operating system and associated hardware for that generic required to support number pooling features will be available on the switch prior the need to activate and use the number pooling features.

1 **5ESS Number Pooling Feature** 2

Lucent Technologies Inc., developed a feature functionality available on operating system generic release 5E14 known as Number Pooling Using Number Portability, 99-5E-7210, SFID 530 in accordance with ANSI Standards Committee T1S1.6 Technical Requirements Document TRQ 4, "Thousands Block Number Pooling Using Number Portability". This technical requirement specifically addresses the needs of the switching network to correctly route the call when 1) numbers are pooled into a switch but not assigned or 2) when numbers are pooled into a switch and a number of that pooled number set is ported to a different switch.

Condition 1 will be common as pooled blocks are initially assigned and should result in returning an unassigned number announcement to the calling party.

Condition 2 will occur when the originating network routes the call based on information received from the LNP query response that contains invalid routing information. Without this feature in place the switching network from both carriers will assume that all information and routing is correct and return an unassigned number announcement. With this feature in place the terminating carrier is responsible for inaccuracies in information for the originating carrier and will indicate to the originating carrier to release the call with a "Release With Cause – Code 26" error condition. This release can be used by the originating carrier to diagnose trouble conditions and to inform the calling party that a trouble conditions exists prohibiting the call from being completed.

Implementation of this feature causes concurrent work for operational support systems.

2 **5ESS Number group growth** 2

This feature for the 5ESS is required to expand the number group capacity on certain of the 5ESS switches beyond the current limitation of 250 NXXs. This feature will also allow the 5ESS to operate with the same NXX associated with more than one NPA. This feature is designated as "Number Portability - NPA/NXX GROWTH TO 8000" and is designated as SFID 198. This feature is required in a number pooling environment when the total unique pooled in, ported in and native NPA-NXXs to that switch exceed or is expected to exceed the NXX limit of the switch, which is 250 assignable NXXs or when a single NXX will be populated on that switch in more than 1 NPA.

3 **5ESS Announcement Hardware for CC26 Treatment** 2

This announcement is required in addition to the feature in item 1 to notify the Qwest originating customer that the call cannot be routed as dialed due to a routing error. The announcement will instruct the caller to contact the repair center so that call routing can be repaired. Without this announcement in place the originating caller is routed to reorder tone, also known as Fast Busy Tone, which indicates a network congestion or a failure to route the call as required. Most callers assume this is a simple Busy Tone and will repeatedly attempt to complete the call prior to initiating a repair complaint.

64 **5ESS Trunking to support new announcement capability** 2

This is intra-switch trunking required for routing access to announcements placed for CC26 announcement. Without this trunking in place when a call originated by this switch encounters a release with CC26 from the terminating switch the calling party cannot be routed to an announcement indicating that there is a routing error.

DMS100 Family of Switches and Associated Remote Switches

This switch is a digital type electronic switch. The generic operating system and associated hardware for that generic required to support number pooling features

may not be available on the switch prior the need to activate and use the number pooling features. All of these switches are equipped for SS7 and are SSP type offices. The total load placed on the processor of this switch type requires a processor replacement due to increased processor usage consumption caused by the Generic designated NA013.

4 **DMS100 NA012 Generic related hardware** 3

This entry represents the material that is required to be placed, including memory or improved processors, to enable the generic operating system NA012 to function, including the available optional features that this generic enables. This is the cost incurred to advance this previously scheduled software load to the point in time required to support the required features for Number Pooling.

5 **DMS100 Generic hardware NA013** 3

This entry represents the material that is required to be placed, including memory or improved processors, to enable the generic operating system NA013 to function, including the available optional features that this generic enables. This is the cost incurred to purchase and place this item in advance of the previously scheduled purchase to the point in time required to support the required features for Number Pooling.

6 **DMS100 Generic hardware NA012 PRI Processor Upgrades** 3

This entry represents the cost of upgrading the PRI processor cards in the impacted DMS100 switches requiring schedule advances. Without this upgrade when Generic Software Release NA012 is loaded any PRI circuits on that switch will fail. This is the cost incurred to purchase and place this item in advance of the previously scheduled purchase to the point in time required to support the required features for Number Pooling.

57 **DMS100 Generic NA011 Software** 3

This is the operating system designation by Nortel for the version of operating software required in the DMS100 switch place subsequent required generic software versions which are required to enable Number Pooling. This is the cost incurred to purchase and place this item in advance of the previously scheduled purchase to the point in time required to support the required features for Number Pooling. This issue of the generic release software must be placed to enable Generic NA012 in item 7 below.

7 **DMS100 Generic NA012 Software** 3

This is the operating system designation by Nortel for the version of operating software required in the DMS100 switch to enable portions of the Number Pooling feature set to function. This is the cost incurred to purchase and place this item in advance of the previously scheduled purchase to the point in time required to

support the required features for Number Pooling. This issue of the generic release software must be placed to enable the required features in items 10 and 11 below.

8 **DMS100 Generic NA013 Software** 3

This is the operating system designation by Nortel for the version of operating software required in the DMS100 switch to enable portions the Number Pooling feature set to function. This is the cost incurred to purchase and place this item in advance of the previously scheduled purchase to the point in time required to support the required features for Number Pooling. This issue of the generic release software must be placed to enable the required feature in item 9 below.

58 **DMS100 SLM III Processors** 3

This hardware memory addition known as System Load Module (SLM) is required with software generic release NA013 to provide adequate memory capacity for this generic software load. This is required when item 8 above is placed.

9 **DMS100 NPE0005 Thousands block number pooling & grouping** 2

This feature designated Thousands Block Number Pooling NPE0005 by Nortel is required to provide solutions for 2 major problems introduced with Number Pooling.

The first problem is that numbers that are native to the switch, ported into the switch and pooled into the switch cannot be combined into the same grouping arrangement. A grouping arrangement for example is a multiple line hunt group, a Centrex Pickup Group or an ISDN private group. Without this feature in place numbers from more than 1 type (native, ported or pooled) cannot be assigned to the same group.

The second problem is to conform with the requirements of ANSI Standards Committee T1S1.6 Technical Requirements Document TRQ 4, "Thousands Block Number Pooling Using Number Portability". This technical requirement specifically addresses the needs of the switching network to correctly route the call when 1) numbers are pooled into a switch but not assigned or 2) when numbers are pooled into a switch and a number of that pooled number set is ported to a different switch.

Condition 1 will be common as pooled blocks are initially assigned and should result in returning an unassigned number announcement to the calling party.

Condition 2 will occur when the originating network routes the call based on information received from the LNP query response that contains invalid routing information. Without this feature in place the switching network from both carriers will assume that all information and routing is correct and return an unassigned number announcement. With this feature in place the terminating carrier is responsible for inaccuracies in information for the originating carrier and will

indicate to the originating carrier to release the call with a "Release With Cause – Code 26" error condition. This release can be used by the originating carrier to diagnose trouble conditions and to inform the calling party that a trouble conditions exists prohibiting the call from being completed.

Implementation of this feature for release with cause creates concurrent work for operational support systems.

This feature is first available with software release NA013.

10 **DMS100 NPE0004 Multiple NPA support Pooling** **2**

This feature designated Multiple NPA Support NPE0004 is required in a pooling and number optimization environment to enable grouping arrangements to function when the numbers assigned to the group are from more than 1 NPA. A grouping arrangement for example is a multiple line hunt group, a Centrex Pickup Group or an ISDN private group. Without this feature in place numbers from more than 1 NPA cannot be assigned to the same group. This feature is first available with software release NA012.

11 **DMS100 BAS078 Duplicate NXX support with remotes** **2**

This feature designated Duplicate NXX Support with Remote Switches is required in a pooling environment to enable the host and its set of remote switches to share the same NPA-NXX in multiple locations. This feature functionality is required when there is more than 1 remote switching system in a rate center served by a common host switch, and the same pooled NPA-NXX is expected to be assigned is expected to be created to provide service on more than 1 of those remote switches. This feature is first available for use with software release NA012.

12 **DMS100 NXX EXPANSION SUPPORT NPE00001, NPE00002** **2**

Features required to expand number group capacity in the DMS100 beyond 800 NXXs and to allow the DMS100 to operate with the same NXX associated with more than one NPA. This feature will also allow the DMS100 to operate with the same NXX associated with more than one NPA. This feature is designated as NXX EXPANSION SUPPORT NPE00001, NPE00002. These features are required in a number pooling environment when the total unique pooled in, ported in and native NPA-NXXs to that switch and its remote switches exceed or is expected to exceed the NXX limit of the switch, which is 800 assignable NXXs, or when a single NXX will be populated on that switch in more than 1 NPA.

13 **DMS100 Announcement Hardware for CC26 Treatment** **2**

This announcement is required in addition to the feature in item 11 to notify the Qwest originating customer that the call cannot be routed as dialed due to a routing error. The announcement will instruct the caller to contact the repair

center so that call routing can be repaired. Without this announcement in place the originating caller is routed to reorder tone, also known as Fast Busy Tone, which indicates a network congestion or a failure to route the call as required. Most callers assume this is a simple Busy Tone and will repeatedly attempt to complete the call prior to initiating a repair complaint.

65 **DMS100 Trunking to support new announcement capability** 2

This is intra-switch trunking required for routing access to announcements placed for CC26 announcement. Without this trunking in place when a call originated by this switch encounters a release with CC26 from the terminating switch the calling party cannot be routed to an announcement indicating that there is a routing error.

DMS10 Family of Switches and Associated Remote Switches

This switch is a digital type electronic switch. The generic operating system required to support number pooling features will not be provisioned on the switch prior to the date that it is anticipated that Number Pooling will be required by either the State or the FCC. This switch type will be capable of correctly functioning in a Number Pooling environment with the placement of the correct Generics and Features.

14 **DMS10 Generic 412.20 Software Host and Stand Alone Switches** 2

This is the operating system designation by Nortel for the version of the operating software required by the DMS10 switch to enable the Number Pooling feature set to function. This is the cost incurred to purchase and place this item in advance of the previously scheduled purchase to the point in time required to support the required features for Number Pooling. There were no plans prior to Number Pooling to place this release of the generic operating program.

52 **DMS10 Memory Cards for Generic 412.20** 2

This hardware memory addition is required with software generic release 412.20 to provide adequate memory capacity for this generic software load. This is required when item 14 above is placed.

15 **DMS10 Number Pooling Software package ID POOL** 2

This feature designated Thousands Block Number Pooling POOL by Nortel is required to provide solutions for 2 major problems introduced with Number Pooling.

The first problem is that numbers that are native to the switch, ported into the switch and pooled into the switch cannot be combined into the same grouping arrangement. A grouping arrangement for example is a multiple line hunt group, a Centrex Pickup Group or an ISDN private group. Without this feature in place numbers from more than 1 type (native, ported or pooled) cannot be assigned to the same group.

The second problem is to conform with the requirements of ANSI Standards Committee T1S1.6 Technical Requirements Document TRQ 4, "Thousands Block Number Pooling Using Number Portability". This technical requirement specifically addresses the needs of the switching network to correctly route the call when 1) numbers are pooled into a switch but not assigned or 2) when numbers are pooled into a switch and a number of that pooled number set is ported to a different switch.

Condition 1 will be common as pooled blocks are initially assigned and should result in returning an unassigned number announcement to the calling party.

Condition 2 will occur when the originating network routes the call based on information received from the LNP query response that contains invalid routing information. Without this feature in place the switching network from both carriers will assume that all information and routing is correct and return an unassigned number announcement. With this feature in place the terminating carrier is responsible for inaccuracies in information for the originating carrier and will indicate to the originating carrier to release the call with a "Release With Cause – Code 26" error condition. This release can be used by the originating carrier to diagnose trouble conditions and to inform the calling party that a trouble conditions exists prohibiting the call from being completed.

Implementation in this feature for release with cause creates concurrent work for operational support systems.

This feature is first available with software release 412.20.

16 **DMS10 Announcement Hardware for CC26 Treatment** **2**

This announcement is required in addition to the feature in item 15 to notify the Qwest originating customer that the call cannot be routed as dialed due to a routing error. The announcement will instruct the caller to contact the repair center so that call routing can be repaired. Without this announcement in place the originating caller is routed to reorder tone, also known as Fast Busy Tone, which indicates a network congestion or a failure to route the call as required. Most callers assume this is a simple Busy Tone and will repeatedly attempt to complete the call prior to initiating a repair complaint.

63 **Not Used**

66 **DMS10 Trunking to support new announcement capability** **2**

This is intra-switch trunking required for routing access to announcements placed for CC26 announcement. Without this trunking in place when a call originated by this switch encounters a release with CC26 from the terminating switch the calling party cannot be routed to an announcement indicating that there is a routing error.

AXE10 Family of Switches and Associated Remote Switches

This switch is a digital type electronic switch. The generic operating system required to support number pooling features will not be provisioned on the switch prior to the date that it is anticipated that Number Pooling will be required by either the State or the FCC. This switch type will be capable of correctly functioning in a Number Pooling environment with the placement of the correct Generics and Features.

17 **AXE10 Generic L10R9.0** **2**

These are the designations by Ericsson for the operating system software required on the AXE10 switch to enable Number Pooling to function. This is the cost incurred to purchase and place this item in advance of the previously scheduled purchase to the point in time required to support the required features for Number Pooling. There were no plans prior to Number Pooling to place either release of these generic operating programs. Generic release L10R9.0 is required to enable the feature in item 19 below. Generic release L10R10.0 is required to enable the feature in item 20 below.

18 **AXE10 Generic L10R10.0** **2**

These are the designations by Ericsson for the operating system software required on the AXE10 switch to enable Number Pooling to function. This is the cost incurred to purchase and place this item in advance of the previously scheduled purchase to the point in time required to support the required features for Number Pooling. There were no plans prior to Number Pooling to place either release of these generic operating programs. Generic release L10R9.0 is required to enable the feature in item 19 below. Generic release L10R10.0 is required to enable the feature in item 20 below.

62 **AXE10 Generic L10R11.0** **2**

This is the designation by Ericsson for the operating system software required on the AXE10 switch. This is the cost incurred to purchase and place this item in advance of the previously scheduled purchase to the point in time required to support the required features for Number Pooling. There were no plans prior to Number Pooling to place this generic operating program. Generic release L10R9.0 is required to enable the feature in item 19 below. Generic release L10R10.0 is required to enable the feature in item 20 below. Generic L10R10.0 is no longer available for purchase. This is the minimal generic software that may be placed to enable number pooling to function.

19 **AXE Number Pooling Number Mix & Match and CC26** **2**

This feature functionality is not separately identified on this switch type. This feature designated Thousands Block Number Pooling by Ericsson is required to provide solutions for 2 major problems introduced with Number Pooling.

The first problem is that numbers that are native to the switch, ported into the switch and pooled into the switch cannot be combined into the same grouping arrangement. A grouping arrangement for example is a multiple line hunt group, a Centrex Pickup Group or an ISDN private group. Without this feature in place numbers from more than 1 type (native, ported or pooled) cannot be assigned to the same group.

The second problem is to conform with the requirements of ANSI Standards Committee T1S1.6 Technical Requirements Document TRQ 4, "Thousands Block Number Pooling Using Number Portability". This technical requirement specifically addresses the needs of the switching network to correctly route the call when 1) numbers are pooled into a switch but not assigned or 2) when numbers are pooled into a switch and a number of that pooled number set is ported to a different switch.

Condition 1 will be common as pooled blocks are initially assigned and should result in returning an unassigned number announcement to the calling party.

Condition 2 will occur when the originating network routes the call based on information received from the LNP query response that contains invalid routing information. Without this feature in place the switching network from both carriers will assume that all information and routing is correct and return an unassigned number announcement. With this feature in place the terminating carrier is responsible for inaccuracies in information for the originating carrier and will indicate to the originating carrier to release the call with a "Release With Cause – Code 26" error condition. This release can be used by the originating carrier to diagnose trouble conditions and to inform the calling party that a trouble conditions exists prohibiting the call from being completed.

Implementation in this feature for release with cause creates concurrent work for operational support systems.

This feature is first available with software release L10R9.0.

20 AXE Unique LRNs per RC **2**

This feature functionality is not separately identified on this switch type. This feature is first available with software release L10R10.0. This feature designated "Unique LRNs per Rate Center" by Ericsson is required to provide the capability of establishing multiple LRNs to a single switch. Specifically when the switch supports more than 1 Rate Center this feature will allow the creation and assignment of an LRN number on the switch for each Rate Center. Qwest's current typical routing is to separate on different trunk groups local from toll traffic. This feature will be required at the time number pooling is implemented at the NPA level by the State. This feature provides for the continued correct routing and billing of the call and becomes essential in a Number Pooling environment. Without this feature in place the originating caller can be billed for completing a non-charge local call.

21 **AXE10 Announcement Hardware for CC26 Treatment** 2

This announcement is required in addition to the feature in item 19 to notify the Qwest originating customer that the call cannot be routed as dialed due to a routing error. The announcement will instruct the caller to contact the repair center so that call routing can be repaired. Without this announcement in place the originating caller is routed to reorder tone, also known as Fast Busy Tone, which indicates a network congestion or a failure to route the call as required. Most callers assume this is a simple Busy Tone and will repeatedly attempt to complete the call prior to initiating a repair complaint.

61 **Not used**

67 **AXE10 Trunking to support new announcement capability** 2

This is intra-switch trunking required for routing access to announcements placed for CC26 announcement. Without this trunking in place when a call originated by this switch encounters a release with CC26 from the terminating switch the calling party cannot be routed to an announcement indicating that there is a routing error.

Miscellaneous Switching

These component pieces are required to provide for growth in the switching network for the added calling that will be generated by Voice Messaging providers in a Number Pooling Environment.

53 **Miscellaneous Switching Inter Office Trunking Switch** 2

Qwest provides interoffice transport for many voice messaging providers. A feature many offer to their customer base is to be able to send messages directly from the voice response unit (VRU) to another messaging subscriber. Most of these messaging systems require the NPA-NXX for the customer to be located on a single VRU. The VRU is typically connected to 1 or only a few switches which directly serves their subscriber. When a messaging provider operates more than a single VRU in the community and after number pooling is implemented, the addressing scheme will quickly become ambiguous since the NPA-NXX will begin to appear on more than a single switch. The simplest manner in which the messaging provider can compensate for this situation is to leave the on the VRU associated with the NPA-NXX rather than the subscribers switch and rely on the PSTN to switch the call to the correct destination. This cost represents the inter-switch switched trunking portion of the increase in total trunking that will be required to provide PSTN capacity attributable to voice messaging in a pooling environment.

54 **Miscellaneous Switching Inter Office Trunking Circuit** 2

Qwest provides interoffice transport for many voice messaging providers. A feature many offer to their customer base is to be able to send messages directly from the voice response unit (VRU) to another messaging subscriber. Most of these messaging systems require the NPA-NXX for the customer to be located on a single VRU. The VRU is typically connected to 1 or only a few switches which directly serves their subscriber. When a messaging provider operates more than a single VRU in the community and after number pooling is implemented, the addressing scheme will quickly become ambiguous since the NPA-NXX will begin to appear on more than a single switch. The simplest manner in which the messaging provider can compensate for this situation is to leave the on the VRU associated with the NPA-NXX rather than the subscribers switch and rely on the PSTN to switch the call to the correct destination. This cost represents the inter-switch switched trunking portion of the increase in total trunking that will be required to provide PSTN capacity attributable to voice messaging in a pooling environment.

59 **Miscellaneous VMS Messaging Routers Qwest VMS** 2

Qwest provides its own competitive voice messaging product. The voice response units require the NPA-NXX for the customer to be located on a single VRU. The VRU is typically connected to 1 or only a few switches which directly serves the subscriber. When number pooling is implemented, the addressing scheme will quickly become ambiguous since the NPA-NXX will begin to appear on more than a single switch. While inter-switch trunking can be added to accommodate the increase in traffic expected when pooling is implemented the administration in tracking which customer is located where is expected to become unmanageable. The placement of messaging routers internal to the voice messaging product will re-associate the customer's switch and with the VRU associated with the same switch. The placement of the messaging router will eliminate the growth in inter-switch trunking anticipated with the introduction of number pooling for the market segment served by Qwest voice messaging. Refer also to Item 74 below.

68 **LION Announcement** 2

This is the cost to place an announcement on the centralized announcement system to terminate calls placed to numbers paid for and reserved by end user customers. This announcement is expected to be used during the interim period between when the end user customer has acquired a number but has not yet established the number to a station.

69 **Not Used**

70 **LION Trunking Circuit Equipment** 2

This cost represents the intra-switch switched trunking portion of the total trunking that will be required to provide trunking between the operator tandem switch and the LION announcement system. This is growth to existing trunk groups so that calls may be terminated to the announcement system without creating call blocking.

71 **LION Trunking Trunk equipment** 2

This cost represents the intra-switch circuit portion of the total trunking that will be required to provide trunking between the operator tandem switch and the LION announcement system. This is growth to existing trunk groups so that calls may be terminated to the announcement system without creating call blocking.

74 **Front End Database for Item 59** 2

Qwest provides its own competitive voice messaging product. The voice response units require the NPA-NXX for the customer to be located on a single VRU. The VRU is typically connected to 1 or only a few switches which directly serves the subscriber. When number pooling is implemented, the addressing scheme will quickly become ambiguous since the NPA-NXX will begin to appear on more than a single switch. The placement of messaging routers internal to the voice messaging product will re-associate the customer's switch and with the VRU associated with the same switch. The placement of the messaging router will eliminate the growth in inter-switch trunking anticipated with the introduction of number pooling for the market segment served by Qwest voice messaging. The Front End Database (FEDB) is required to store the information necessary for the routers to function. This storage is the active database to which the routers query for correct routing instructions.

FCC Docket 95-116; DA 98-2534 Paragraph 50 part (d)
LINKS SCP from STP

22 **Not Used**

23 **Not Used**

24 **Not Used**

FCC Docket 95-116; DA 98-2534 Paragraph 50 part (c)

ISCP

The SCP selected for deployment of LNP is the Telcordia ISCP. There were 5 pairs purchased, 4 pairs for use with LRN queries and 1 pair serving as a Message Relay Point (MRP) for Message Relay Service (MRS) queries. The pair serving as the MRP was deployed regionally with the regional STPs split between Denver and Phoenix and will become exhausted due to total query volume with the introduction of number pooling.

25 **Not Used**

26 **Not Used**

27 **Not Used**

48 **ISCP Additional Database Capacity for Pooled Records** **2**

The total data capacity of the ISCPs for ported and pooled records is 5,000,000. Today there are over 1,000,000 records of ported numbers. Qwest is currently assigning 600,000 numbers per month. Additional hardware capacity is required in a Number Pooling environment to expand the database capacity to 15,000,000 records. Without this added capacity and during a Number Pooling Trial; with an undefined set of NPAs pooled; for an undefined set of States; for an undefined period of time; Qwest risks being unable to complete calls to ported or pooled numbers. The ISCP database contains records for all ported and pooled numbers in the Qwest region served by the Western Region NPAC for Qwest and all other local providers, including the State of Alaska. If the records cannot be populated on the ISCP, responses to direct queries sold to others will generate routing failures. The 5 ISCPs previously placed with LNP and the new ISCP placed for Number Pooling will all be equipped with this feature. Refer to 50 below.

49 **ISCP Number Pooling Feature** **2**

This feature on the ISCP is required to support Number Pooling's desired intent to represent pooled numbers with Efficient Data Representation (EDR). The intent of EDR is to represent the 1,000 block of pooled numbers as a single entry in the database as opposed to 1,000 individual entries. This capability is made functional when the existing Lockheed Martin NPAC software release 3.0 is implemented. Based upon the vagueness of the FCC order, it is uncertain when EDR will be implemented and ported/pooled record consumption controlled. The 5 ISCPs previously placed with LNP and the new ISCP placed for Number Pooling will all be equipped with this feature.

50 ISCP Increased Database Feature **2**

This feature on the ISCP is required to support the hardware and addressing associated with an increase in database capacity. The total data capacity of the ISCPs for ported and pooled records is 5,000,000. Today there are over 1,000,000 records of ported numbers. Qwest is currently assigning 600,000 numbers per month. Additional capacity is required in a Number Pooling environment to expand the database capacity to 15,000,000 records. Without this added capacity and during a Number Pooling Trial; with an undefined set of NPAs pooled; for an undefined set of States; for an undefined period of time; Qwest risks being unable to complete calls to ported or pooled numbers. The ISCP database contains records for all ported and pooled numbers in the Qwest region served by the Western Region NPAC for Qwest and all other local providers, including the State of Alaska. If the records cannot be populated on the ISCP, responses to direct queries sold to others will generate routing failures. The 5 ISCPs previously placed with LNP and the new ISCP placed for Number Pooling will all be equipped with this feature. Refer to 48 above.

51 Not Used

60 Not Used

Staffing and Personnel Related Costs

With number pooling the personnel related costs are both significant and significant in comparison to the entire project. These are people related costs that will be incurred in direct support of planning, provisioning and maintenance of the number pooling functions and hardware that were added in the network and the administration, inventory management and reporting requirements defined in the National order.

28 Network Planning and Project Management term **2**

The planning functions are included to design, coordinate and price the changes and various impacts to the switching and signaling networks as well as the staffing impacts in the network organization.

The project management functions are required to manage the implementation of the number pooling program across all departments including managing the changes in the switching and signaling networks and process and procedure changes required with the implementation of number pooling including auditing, reporting and inventory management changes.

It is expected that the need for this work function will phase out during 2002.

29a Number Administration specialist **2**

Permanent staffing is required for the new thousands block forecasting, receipt and allocation of numbers at a thousands block level at the Rate Center rather than an NXX at the NPA and switch. It is anticipated that automation of the process will allow the headcount to remain stable through the life of this reporting period. However, increased regulatory reporting requirements (frequency and quantity) will require additional personnel, to meet the mandated demands of this function. There is no initial peak in staffing due to the specialization required to analyze, predict and allocate numbers in a timely manner, which is an ongoing requirement, and also that automated systems to support the work group are expected to be available by mid 2001 as more pooling locations are introduced. Source data for this work is derived from the data content provided by item 34 below. The estimated impact that will be incurred but for number pooling that is identified for this work function is about 33%.

29b Number Administration specialist **2s**

Permanent staffing is required for the new management, administration and allocation of numbers at the Rate Center level requiring a maximum 6 month inventory for thousand blocks, rather than an NXX at the NPA and switch at 12 month interval in the past. Permanent staffing is also required for tracking, monitoring, forecasting and reporting on the utilization of numbering resources and the increased frequency required to support the information and reporting requirements to obtain NXXs. This work will be done on a regular basis with the Pooling Administrator as well as NANPA and also in response to state interrogatories which happen both more frequently and at a broader scope than is presently experienced. There is no initial peak in staffing due to the specialization required to analyze, adjust, predict and allocate numbers in a timely manner, which is an ongoing requirement. Also that automated system to support the work group is expected to be available by mid 2001 as more pooling locations are introduced. Source data for this work is derived from the data content provided by item 34 below. The estimated impact that will be incurred for number optimization reasons other than for number pooling that is identified for this work function is about 67%.

30 Complex Translations technical consultant and testers **2**

This work function is a new full time function whose need is generated by the implementation of Number Pooling. It is expected that Number Pooling will generate a significant quantity of trouble conditions. This trouble generation will be true both through Pooling's introduction and ramp up as well as an ongoing problem attributable to anticipated large volumes of pooled numbers. Most methods and processes will be manual during the introduction of Number Pooling. As the Number Pooling deployment nears its ultimate penetration towards the end of 2001 and beginning of 2002 Qwest will be pooling in large quantities of numbers to a significant network base. Even with automated systems it is unclear what percentage of pooled numbers will encounter trouble conditions. The

introduction and ultimate deployment will require extensive trouble analysis including the creation of added testing positions in the complex translations organization. Trouble conditions will be referred for testing and maintenance typically from item 36 below. Qwest does not have any current experience with Number Pooling, nor the trouble conditions to expect with its implementation and ongoing customer maintenance.

31 **Not Used**

32 **Not Used**

33 **Number preparation, analysis and correction term** **2**
This work function is incurred entirely to support Number Pooling and the requirement to donate blocks of numbers to a pool. This function prepares TN data and analyzes the potentially donatable 1K blocks within the NPA-NXXs in Qwest's switches to determine which number blocks should be donated to a pool and which, if any, numbers must be ported back into the switch prior to donation. Without this function it is not possible to accurately determine how many and which blocks should or should not be donated and customers could easily be inadvertently disconnected from service. This separate function is only required during the initial deployment and introduction of Number Pooling areas within each state. The objective is to complete the majority of the TN preparation work for the 14 Local Network states by the end of 2001. The block validation and donation functions occur as ordered by the state or national pooling implementation schedules and will continue through 2004.

34a **Number reservation, reporting & auditing** **2**
This work function must work concurrently with, and eventually replace, existing functions to meet the newly defined requirements of the FCC on an ongoing basis for number administration and reporting. The order as generated by the FCC requires very basic and fundamental changes in the manner in which numbers are administered and number usage reported. Among the contributors to this increased headcount requirement is the restructuring of the inventory base from the NXX to 1K block, changes in number usage definitions, changes in reporting requirements extending to the 1K level and the creation of an audit trail usable by outside auditors in association with 1K pooling. The added staffing is required to successfully execute these new requirements. established by the FCC. The estimated impact that will be incurred but for number pooling that is identified for this work function is approximately 70%.

34b **Number reservation, reporting & auditing** **2s**
This work function is augmenting, and eventually replacing, existing functions to meet the newly defined requirements of the FCC on an ongoing basis regarding

the reservation of numbers and the management of their inventory level. The order as generated by the FCC requires very basic and fundamental changes in the manner in which numbers are administered. Among the contributors to this increased headcount requirement are the drastic reduction in permitted number inventory from 12 months to 6 months and the restructuring of the inventory base from the switch to the rate center. The added staffing is required to fulfill these new requirements established by the FCC. The estimated impact that will be incurred for number optimization reasons, other than for number pooling, that is identified for this work function is approximately 30%.

35 **Interim reporting and analysis term** 2

This work function is new with the Number Pooling order and created just for the period of time required to generate the first in a new set of analysis and reports on Qwest's usage of numbers for the August 1st 2000 report to the FCC. This is a term function using the new numbering definitions and reporting structure as defined by the FCC. Without these people being in place the reports required by the FCC in August, 2000 cannot be generated. This term group was developed to accommodate the FCC order for number pooling and the resultant unparalleled detailed analysis required for the first, August 1st 2000, report. Because of the transition to the new numbering definitions and reporting structure, the August 2000 report could not have been generated without this workgroup.

36 **Repair, repair screening & repair analysis** 2

This function handles the repair process from the initial call by a customer through the repair analysis and added function of repairing the problem attributable to Number Pooling. There may be handoffs of trouble conditions for repair to item 30 above. When looking at the introduction of LNP with a trouble rate of 25% or more, orders processed in a pooling environment can be expected to encounter a like percentage of trouble conditions. Qwest does not have any current experience with Number Pooling, nor the trouble conditions to expect with its implementation and ongoing customer maintenance.

55 **VMS System Administrator** 2

This work function is required with the implementation of number pooling to track, assign, route and audit the creation and placement of pooled NPA-NXX-Xs internal to the Qwest voice messaging product. This position is also responsible for methods, processes and auditing of the translations done on the messaging router arrangement in item 59 above.

56 **VMS Order Processing** 2

This work function is required in part with the expected manual implementation of number pooling and ongoing when the messaging routers are placed. The initial orders for voice messaging associated with pooled numbers will have been

manually assigned and will require manual processing to correctly associate the customer and switch and VRU. When the messaging router is placed this work function will be modified to include tracking and validation of order processing into the messaging router.

37 **Official communications for added headcount expense** **2**
This cost represents the communications needs for the added headcount, both term employees and permanent employees when required. Where communications facilities are in place this expenditure is not incurred.

38 **Official communications for added headcount capital** **2**
This cost represents the communications needs for the added headcount, both term employees and permanent employees when required. Where communications facilities are in place this expenditure is not incurred.

39 **Furniture, floor space** **2**
This cost represents the furniture and floor space needs for the added headcount, both term employees and permanent employees. Where facilities exist there will be no incurred expenditures.

40 **PCs, Terminals Software & Lease for added HC expense** **2**
This cost represents the computing needs for the added headcount, both term employees and permanent employees. Due to the large requirement for added headcount and the uncertainty of required timing many of the added employees are term and do not require purchased computing capabilities.

41 **PCs, Terminals for added HC capital** **2**
This cost represents the computing needs for the added permanent employees when required. Some computing equipment is already in place.

42 **Rewards and recognition across business units** **2**
This cost represents a pool of money set aside for unique recognition for work well done. This will be dispensed, most likely in part, and if it is earned, to some or all of the implementation team.

43 **Incremental process through consultant** **2**
Due to the assumed and interpreted time frames for the introduction of Number Pooling and its resultant massive changes in number administration, it is believed that additional assistance from consultants will be required to create those changes. This is an allocation for those consultants if required.

44 O&T training **2**

Due to the magnitude of changes being introduced by Number Pooling and creating a number pool per rate center most jobs will be impacted. This cost represents the anticipated needs to design, develop, produce, distribute and present training to the Network organization. It is anticipated that the training will be multi-media consisting of videotape, web based instruction and instructor lead presentations as is most benefiting the targeted work group. Not all work groups require the same level of detail, some require very specific and detailed instruction.

45 Travel & Voucher **2**

It is anticipated that there will be some travel required for the implementation Number Pooling. The specific needs are not clear, but can consist of specialized on site support ofr installation or testing or meeting with industry representatives for pooling introduction or regulators concerning the specifics of Qwest's implementation and status.

46 Maintenance on Capital hardware placed **2**

This cost represents the future maintenance needs for capitalized hardware placed. This cost occurs for each year after the first year the capital is placed, not during the year the capital is placed. This cost represents personnel time for trouble shooting and repair as well as component parts that require replacement and are not included in some type of warranty.

47 Consulting fees **2**

These are fees for anticipated costs for Advanced Technologies and Telcordia for assistance with standards and their interpretation. Also anticipated are joint industry meetings to help ease the introduction of Number Pooling with a common understanding of implementation problems.

72 Not Used

73 Not Used

75 **SWITCH Numbering assignment and administration** **2**

In the SWITCH database there are new and several updated work sessions that apply for the pooling solution for both donation and receipt. These work sessions require staffing additions for manual work when donating or receiving pooled blocks.

At the time of donation, users execute a work session to individually remove the donated TNs from the 1K block.

At the time of receipt, users execute several work sessions to: 1) Add the block of TNs to the SWITCH System inventory; 2) Mark the receiving TNs as pooled and associate them to their default Home IC; 3) Purify the received block of TNs; 4) Manual work is done if there are TNs already working in the default Home IC; 5) Reports are run to obtain a list of all pending orders for a TN; 6) Users must resolve any RMAs (Request for Manual Assistance) that occur as a result of pending order activity; and 7) Complete manual work for any TNs that cannot have a service order written against them.

Employees placed to support Number Pooling

Year 2000 is still pending a final verification of total headcount added or contributing to the project.

	2000	2001	2002	2003	2004	2005	2006
Group Id 28	6.00	5.50	3.00	0.00	0.00	0.00	0.00
Group Id 29	2.00	6.00	6.00	6.00	6.00	6.00	6.00
Group Id 30	0.20	13.00	15.00	15.00	15.00	15.00	15.00
Group Id 31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Group Id 32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Group Id 33	57.00	76.00	17.00	12.00	3.00	0.00	0.00
Group Id 34	26.00	19.75	21.01	21.01	19.01	19.01	19.01
Group Id 35	36.00	0.00	0.00	0.00	0.00	0.00	0.00
Group Id 36	27.00	29.00	44.00	44.00	42.00	42.00	42.00
Group Id 55	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Group Id 56	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Group Id 75	0.00	12.00	12.00	12.00	12.00	12.00	12.00
Total	154.20	163.25	120.01	112.01	99.01	96.01	96.01

WORKPAPER 3

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Qwest

Number Pooling IT Costs
FCC Recoverable Costs - Non-Confidential
Total Costs

TYPE 1 and 2 COSTS:		2000		2001		2002		2003		2004		2005		2006		Total		
Project	Project Description	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Total
NP Systems Validation	The purpose of this project was to investigate current "classic" US West Systems of border town issues.	1.3	5.2	-	-	-	-	-	-	-	-	-	-	-	-	1.3	5.2	6.5
Network IBM ISCP	Disk drives for Network ISCPs	-	##	-	-	-	-	-	-	-	-	-	-	-	-	-	##	##
Management Team	Costs are associated with headcount required to support the Number Pooling Program Office (Director, Project Manager/Account Managers, Architects, Analyst, Program Manager, PMA and Finance Manager)	458.6	1,834.6	645.5	2,582.0	322.8	1,291.0	-	-	-	-	-	-	-	-	1,426.9	5,707.6	7,134.5
TNVU (TN Viewing Utility)	This project provides for TN utilization and forecasting data to support the associated business processes within the NSAC and Number Planning organizations	9.2	236.7	208.0	1,232.0	286.7	-	286.7	-	286.7	-	286.7	-	286.7	-	1,650.8	1,468.7	3,119.5
Develop Block Verification Tools	This application identifies the status of TNs within the pooling designated blocks. Data from several Qwest systems is extracted and reported for further analysis by the NSAC.	4.5	18.2	44.2	176.6	-	-	-	-	-	-	-	-	-	-	48.7	194.8	243.5
Use of Pooled Numbers	This work includes making internal development changes to handle POOL FID and EXK in all the systems including the service order processors and Billing. IT estimates that over 30 internal systems will require changes to support the implementation of Number Pooling.	20.8	83.4	195.0	880.0	219.2	-	219.2	-	219.2	-	219.2	-	219.2	-	1,311.8	963.4	2,275.1
Autopopulate FID	This provides for the POOL FID and EXK to be automatically populated on all orders that contain pooled telephone numbers	-	-	950.0	3,800.0	570.0	-	570.0	-	570.0	-	570.0	-	570.0	-	3,800.0	3,800.0	7,600.0
Overall Billing Impacts	Thousands-Block Number Pooling involves allocation of blocks of sequential telephone numbers within the same NXX to different service providers and, potentially, to different switches which serve customers within the same rate area. All 10,000 numbers within each NXX continue to be assigned to one rate area, but are allocated among multiple service providers at the Thousands-Block (NXX-X) level. Thousands-Block Number Pooling is based on the LNP technology, which allows phone numbers to be ported between service providers within rate centers.	-	-	1,877.5	7,965.7	-	-	-	-	-	-	-	-	-	-	1,877.5	7,965.7	9,843.2
Billing for Rating and Taxing	Additional EXK FID translations required within CRIS systems for Network Number Pooling. Need to identify the problem switches that cross NPA's. The NPA of the account can be used to determine whether to use the EXK provided or use a new translated EXK for rating and taxing(Eastern).	-	-	27.2	108.8	-	-	-	-	-	-	-	-	-	-	27.2	108.8	136.0
Interoperability Testing	This testing and deployment is a coordinated test that will run each scenario supported by Number Pooling through the systems in an end-to-end test (individual system tests are NOT sufficient when a large number of systems are impacted). This testing will be executed for each region that must roll out NP. Each region, while often using the same systems by name are not actually the same in terms of how data is handled. Therefore, a full test is required.	39.2	156.8	77.0	308.0	-	-	-	-	-	-	-	-	-	-	116.2	464.8	581.0
NPAC to ASMS Testing	This includes cost to support Industry NPAC v3.0 to ASMS v4.0 test, Internal Compliance Test, monitor the links to the NPAC, NPAC Correct and re-validate and to install and test future releases of the SOA/LSMS.	-	-	4.4	17.6	-	-	-	-	-	-	-	-	-	-	4.4	17.6	22.0

Project	Project Description	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Total
NPAC Development& Administration	Qwest Cost Allocation was left flat at 30.89% during the 5 year period because modification of this allocation has not been finalized. Qwest anticipates that this allocation will be reduced to approximately 28% in 2001. TN Pooling Event estimates are based on Qwest's current requirement of 2.4M TNs per year. Volume is less in the earlier years because of the allowance for a six month inventory, and increases as Number Pooling implementation is expanded.	-	-	##	-	##	-	##	-	##	-	##	-	##	-	##	-	##
ASMS Dual Footprint	4.0 of ASMS is in the only test environment we have for ASMS (a unique IBM platform). Number Pooling work for 3.1 of ASMS cannot use that platform for testing of any key features. We only have the production environment to test against therefore there is a need for another test environment for 3.1 testing.	-	-	80.0	670.0	-	-	-	-	-	-	-	-	-	-	80.0	670.0	750.0
Cause Code 26	Misrouted call error handling - Allows Qwest to accommodate misrouted calls that are received by other networks providing the caller with an announcement that the dialed number has been ported and/or pooled. This new system must have the capability to synchronize data contained in CNUM, ASMS, SWITCH and the Network Element and provision that information in a trigger like mechanization through MARCH, so that the network has the intelligence to route misrouted calls. If we are unable to have access into Telcordia systems to effectively develop a system that supports Cause Code 26, then we will ask Telcordia to develop a solution, which will more than likely increase costs.	-	-	##	##	##	##	##	-	##	-	##	-	##	-	##	##	##
LSS System work	The current LSS system is a discontinued BellCore product. Its basic design dates back to its predecessor, DIR/ECT, written by Bell Labs in the early 1970's. LSS is a table-driven system with over 30 tables used to populate and validate information going into the LSS database. The cornerstone of the LSS system is the Central Office/Exchange Table. This table provides the Numbering Plan Area (NPA), directory scoping/DA locality, default community, and various other information required by this system. The basic premise of the CO/EX table is Prefix, NPA, and exchange, if you know any two items you can derive the third. Local Number Portability (LNP) and Number Pooling make this premise invalid in the current business environment by breaking the link between NPA, NXX and Exchange. Pooled and ported listings must be scoped by where the service is being provided, by Service Address, regardless of what the Telephone number is. The inherent design of LSS does not allow this.	-	-	800.0	3,200.0	-	-	-	-	-	-	-	-	-	-	800.0	3,200.0	4,000.0
TNP Package	To successfully support Number Pooling, changes must be made to a variety of systems. Telcordia supplies software enhancements for a foundational set of systems that support service order flows, number assignments, provisioning and routing. These systems can not be modified by Qwest to support Number Pooling and therefore must be contracted with Telcordia.	-	##	-	##	##	##	##	-	##	-	##	-	##	-	##	##	##
Telcordia Consultant	Telcordia Systems SME to support Number Pooling	-	-	-	##	-	-	-	-	-	-	-	-	-	-	-	##	##
State Mandate	Develop tools and interim systems mechanization to support trial. Also provide resources and processes to support trial's manual workarounds.	15.1	-	1,808.6	-	-	-	-	-	-	-	-	-	-	-	1,823.7	-	1,823.7
Total TYPE 1 and 2 Costs		**548.8**	**7,374.8**	**8,233.0**	**26,172.7**	**4,164.2**	**7,291.0**	**3,108.0**	**-**	**3,231.7**	**-**	**3,348.3**	**-**	**3,402.5**	**-**	**26,036.5**	**40,838.6**	**66,875.1**

Project	Project Description	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Expense	Capital	Total
TYPE 3 COSTS:																		
DID Package	Mechanized the Porting In/Out of DID ranges. This package is important so that Qwest will accurately report to the FCC required Number Categories. The cost of this enhancement is expected to be offset by efficiencies in operation.	-	-	-	##	##	-	##	-	##	-	##	-	##	-	##	##	##
Total Costs		**548.8**	**7,374.8**	**8,233.0**	**28,172.7**	**4,264.2**	**7,291.0**	**3,208.0**	**-**	**3,331.7**	**-**	**3,448.3**	**-**	**3,502.5**	**-**	**26,536.5**	**42,838.6**	**69,375.1**

WORKPAPER 4

Number Conservation Order Service Delivery Costs
Type 2 (Recoverable)

	Acct. Code	2000	2001	2002	2003	2004	2005	2006	Total
Headcount									
Program Office	6623	3	5	0	0	0	0	0	
Training	6623	0	0	0	0	0	0	0	
Operator & Information Services	6622	0	25	3	3	3	3	3	
Backroom	6623	0	9	5	5	5	4	4	
Service Negotiation	6623	0	23	24	22	22	21	21	
Total Headcount		3	62	32	30	30	28	28	
Expense									
Program Office	6623	344,842	1,002,427	390,075	0	0	0	0	1,737,344
Training	6623	0	171,414	2,000	2,000	2,000	2,000	2,000	181,414
Operator & Information Services	6622	0	876,230	1,856,996	185,700	194,985	204,734	214,971	3,533,615
Backroom	6623	0	294,760	243,546	286,307	272,522	225,165	225,165	1,547,464
Service Negotiation	6623	19,017	797,548	1,257,605	1,167,220	1,198,179	1,170,782	1,170,782	6,781,133
Total Expense		363,859	3,142,379	3,750,221	1,641,227	1,667,685	1,602,681	1,612,918	13,780,970
Capital									
Program Office	6623	0	0	0	0	0	0	0	0
Training	6623	0	0	0	0	0	0	0	0
Operator & Information Services	6622	0	50,000	18,000	0	0	0	0	68,000
Backroom	6623	0	18,000	0	2,000	2,000	0	0	22,000
Service Negotiation	6623	0	38,000	2,000	2,000	0	0	0	42,000
Total Capital		0	106,000	20,000	4,000	2,000	0	0	132,000
Expense and Capital Total									
Program Office	6623	344,842	1,002,427	390,075	0	0	0	0	1,737,344
Training	6623	0	171,414	2,000	2,000	2,000	2,000	2,000	181,414
Operator & Information Services	6622	0	926,230	1,874,996	185,700	194,985	204,734	214,971	3,601,615
Backroom	6623	0	312,760	243,546	288,307	274,522	225,165	225,165	1,569,464
Service Negotiation	6623	19,017	835,548	1,259,605	1,169,220	1,198,179	1,170,782	1,170,782	6,823,133
Total Expense and Capital		363,859	3,248,379	3,770,221	1,645,227	1,669,685	1,602,681	1,612,918	13,912,970

Number Pooling
Service Delivery Cost Descriptions

Retail Service Delivery

With the implementation of Thousands Block Number Pooling, impacts to Retail Service Delivery will occur in Service Negotiations, Training Development and Delivery, Backroom Operations, Operator and Information Services and the Program Office.

Service Negotiation Time (Frontline):
These costs represent the incremental service order negotiation time required to process orders for end user customers. In NPAs where number pooling is deployed and an order cannot be handled through the Qwest SONAR system, the following additional functions are required to be performed manually by a service representative:

1. Determine whether the assigned number is a pooled number.
2. Perform additional order entries until systemization is available (estimated 4th Quarter 2001).
3. Explain ramifications to the customer of the newly defined categories per the FCC Numbering Optimization Order.

With the expected implementation of auto-population of FIDs and EXKs in the SONAR system, incremental costs associated with the Frontline operations has decreased.

Training Development and Delivery:
These costs represent the costs to create and deliver training to sales and service consultants, order writers, and service order error correction personnel. Training will provide an overview of Number Pooling including the process and criteria for issuing orders with Pooled Numbers and an in depth understanding of Number Usage Mandated by the FCC. These costs include Instructor lead training that includes time, travel and materials to ensure all FCC Mandated rules are communicated to Service Representatives.

Backroom Costs:
These costs represent personnel and associated costs to the Backroom Operations. Additional personnel will be required to accommodate the expected increase in Service Order Errors and to work the orders associated with contaminated numbers. In addition, service order activity is required to retain customers that have telephone numbers within a pooled thousand block of numbers that is contaminated.

Operator Information Services (OIS):
Additional headcount and system work is necessary to handle the complexities associated with directory listings. These costs include:

1. Assignment of White Page Directory Code to Pooled Numbers
2. Assurance of accurate Community information for Directory Assistance Data Base
3. Ability to contractually meet numerous List Product agreements
4. Revisions to existing systems to allow for White Page Directory Code by means other than NPA-NXX.

Program Office:
Within the various units of Qwest, coordination must take place to ensure a smooth deployment of Number Pooling. The Program Office will consist of project managers, program managers, methods & procedures managers, and business case analysts who will ensure process, coordination and funding issues get resolved to minimize customer impacts.

Wholesale Service Delivery

The implementation of Thousands Block Number Pooling will impact procedures and processes for pre-ordering, ordering and provisioning for Qwest wholesale customers to ensure compliance with the FCC guidelines for Number Pooling and other number conservation measures.

Wholesale Service Delivery costs represent incremental service order negotiation time required to process orders that require number assignment. Number assignments are performed for resold lines, Public Access Lines and Unbundled Network Elements – Platform (UNE-P) and any other services that may have numbers associated with them. If the assigned number is a pooled number, a manual written order will be required until full systemization is in place to support Number Pooling.

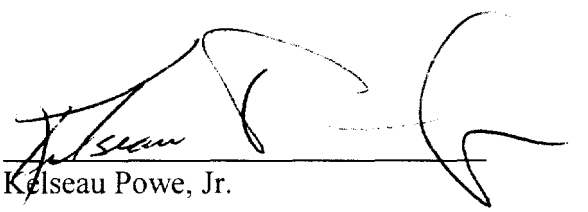
The percentage of Service Orders requiring a new TN assignment was multiplied by the additional time required per order. The total additional time required was divided by productive time to determine the full time equivalent (FTE) occupational headcount in the Service Delivery organization.

Number Pooling and the related number conservation initiatives will require the FTE of one additional manager to establish methods and procedures, measurements, report on results, participate in industry forums and to ensure that the industry, federal and state requirements are being met from an overall systems, network and process perspective.

Training development and delivery are required for sales and service consultants, order writers, and service order error correction personnel, as well as account managers. Training will provide an overview of Number Pooling including the process and criteria for issuing orders with Pooled Numbers and an in depth understanding of Number Usage Mandated by the FCC. The training costs include instructor lead training, including time, travel and materials to ensure all FCC Mandated rules are communicated to Service Representatives and Repair Technicians. Also included are ongoing costs to update training materials, provide refresher training and/or training for new employees and costs to maintain and update documentation for Wholesale customers via the web and direct mail distribution.

CERTIFICATE OF SERVICE

I, Kelseau Powe, Jr., do hereby certify that on the 16th day of February, 2001, I have caused a hard copy of the foregoing **MOTION TO ACCEPT APPENDIX TO COMMENTS (including Appendix A)** to be served, via hand delivery, upon the persons/entity listed on the attached service list.



Kelseau Powe, Jr.

Michael K. Powell
Federal Communications Commission
8th Floor
Portals II
445 12th Street, S.W.
Washington, DC 20554

Gloria Tristani
Federal Communications Commission
8th Floor
Portals II
445 12th Street, S.W.
Washington, DC 20554

Susan P. Ness
Federal Communications Commission
8th Floor
Portals II
445 12th Street, S.W.
Washington, DC 20554

Harold Furchtgott-Roth
Federal Communications Commission
8th Floor
Portals II
445 12th Street, S.W.
Washington, DC 20554

Dorothy T. Attwood, Chief
Common Carrier Bureau
Federal Communications Commission
5th Floor
Portals II
445 12th Street, S.W.
Washington, DC 20554

L. Charles Keller
Federal Communications Commission
Suite 6-A207
Portals II
445 12th Street, S.W.
Washington, DC 20554

Cheryl L. Callahan
Federal Communications Commission
Suite 6-A207
Portals II
445 12th Street, S.W.
Washington, DC 20554

Jamal Mazrui
Federal Communications Commission
Suite 6-A207
Portals II
445 12th Street, S.W.
Washington, DC 20554

Dennis Johnson
Federal Communications Commission
Suite 6-A207
Portals II
445 12th Street, S.W.
Washington, DC 20554

Carmel Weathers
Federal Communications Commission
Suite 6-B153
Portals II
445 12th Street, S.W.
Washington, DC 20554

International Transcription
Services, Inc.
1231 20th Street, N.W.
Washington, DC 20036

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